Detecting Motion using digital sensors.

Aim: Use motion sensors to detect and collect motion data. Present the collected data as part of a report made on Microsoft Word.

Method

Create a word doc called Detecting Motion using Digital Motion

Make headings

Equipment and set up ( in here will be the picture you take of the equipment and the labels

Results

In here will be the tables and graphs of each of the scenarios

Each scenario will need a heading be well labelled and have a caption of explanation.

Doing the experiment

Part 1

1. observe the set up of equipment on the teachers desk
2. take a photo of this and put it into a word document. Label all the parts.
3. Use the datastudio software to collect the motion data for the following scenarios.
   1. Moving toward the motion sensor at a constant velocity
   2. Moving away from the motion sensor at a constant velocity
   3. Moving toward the motion sensor speeding up – ie accelerating
   4. Moving away from the motion sensor speeding up
   5. Moving toward the motion sensor slowing down (decelerating)
   6. Moving away from the motion sensor slowing down.
4. Use the data studio software to export the data.
5. Use software to create labelled graphs of each of these scenarios
6. Add this as the results to your document with the photo of the equipment

Part 2

1. Create some complex motion eg speed up slow down stationary etc in the one “run” and collect its data from the motion sensor
2. Use the data studio software to export the data.
3. Use software to create labelled graphs of each of these scenarios
4. Add all the information to your report.
5. Use some formula to calculate the
   1. final velocity ,
   2. average speed
   3. acceleration

for 3 scenarios